

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|---|------------------|---------|------------------|
| L1 | 436 | 438/111.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 14:03 |
| L2 | 29 | (US-20050012189-\$ or US-20010019181-\$ or US-20020006718-\$ or US-20020149092-\$ or US-20020180035-\$ or US-20020187590-\$ or US-20030034569-\$ or US-20030071348-\$ or US-20030092221-\$ or US-20030203539-\$ or US-20040195701-\$ or US-20050003585-\$ or US-20050012203-\$ or US-20030176020-\$ or US-20040212080-\$).did. or (US-6444498-\$ or US-5258648-\$ or US-5311060-\$ or US-6228683-\$ or US-6323066-\$ or US-6432749-\$ or US-6559537-\$ or US-6709895-\$ or US-6734552-\$ or US-6853070-\$ or US-6861750-\$ or US-6873039-\$ or US-6933176-\$ or US-6607942-\$).did. | US-PGPUB; USPAT | OR | ON | 2006/07/12 14:04 |
| L3 | 592 | 438/112.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:06 |
| L5 | 865 | 438/122.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:31 |
| L6 | 274 | 438/122.ccls. and (strip or array or line) near3 (substrate or package or pcb or pwb or circuit near board or wiring near board or leadframe or lead adj frame) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:32 |

EAST Search History

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|-----|------|---|---|----|----|------------------|
| L8 | 30 | 438/122.ccls. and (underfill\$4 or under-fill\$4) and (tim or thermal near interface or conductive near adhesive or thermal near adhesive) and (heatsink or heatsinking or (heat or heating or thermal\$2) near (sink or sinking or slug or spread\$4)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 17:00 |
| L9 | 1199 | 257/E23.101.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:51 |
| L10 | 252 | 257/E23.129.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 16:05 |
| L13 | 157 | 257/E23.133.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 16:19 |
| L14 | 1637 | 257/E21.502.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 16:19 |
| L16 | 644 | 257/E23.101,E21.502.ccls. and (strip or array or line) near3 (substrate or package or pcb or pwb or circuit near board or wiring near board or leadframe or lead adj frame) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 16:41 |
| L18 | 85 | 257/E23.101,E21.502.ccls. and (underfill\$4 or under-fill\$4) and (tim or thermal near interface or conductive near adhesive or thermal near adhesive) and (heatsink or heatsinking or (heat or heating or thermal\$2) near (sink or sinking or slug or spread\$4)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 17:01 |

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|-----|-----|---|------------------------------|----|----|------------------|
| S42 | 30 | ("20010015492" "20020005578" "20020006718" "20020180035" "20020185734" "20030034569" "5172213" "5311060" "5339216" "5444025" "5493153" "5610442" "5639694" "5650663" "5679978" "5705851" "5736785" "5773362" "5877552" "5977626" "5986885" "6037658" "6236568" "6251706" "6323066" "6414385" "6462405" "6525421" "6631078" "6656770"). PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 10:04 |
| S43 | 109 | ("20020079570" "3908075" "3942245" "4501960" "4674175" "4701781" "4975765" "5023202" "5041395" "5122860" "5157475" "5172213" "5175612" "5285105" "5334857" "5366933" "5420460" "5474957" "5482736" "5482898" "5485037" "5556807" "5596231" "5596485" "5620928" "5650593" "5672548" "5672909" "5679978" "5693572" "5708567" "5729432" "5736785" "5789813" "5796163" "5807768" "5854511" "5867368" "5874321" "5886397" "5894108" "5900676" "5939784" "5940271" "5949655" "5950074" "5962810" "5981314" "5982621" "5986336" "5986340" "6011304" "6028354" "6034429" "6049125" "6069023" "6081028" "6081029" "6091603" "6092281" "6097101" "6104086" "6111324" "6117193" "6117705" "6127724" "6143588" "6150193" "6162849" "6163458" "6165612" "6191360" "6196002" "6198163" "6206997" "6208519" "6212070" "6214644" "6219238" "6222263" "6228676" "6229200" "6229702" "6236568" "6242281" "6246566" "6258629" "6265771" "6266197" "6274927" "6281241" "6281568" "6285075" "6291884" "6294100" "6294830" "6326678" "6395578" "6396143" "6429048" "6429508" "6433360" "6444498" "6452255" "6458626" "6498099" "6507102" "6552417" "6556740").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 10:46 |

EAST Search History

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|-----|-----|---|---|----|----|------------------|
| S44 | 810 | (strip or array or line) near (substrate or pcb or leadframe or lead adj frame or package) near8 (chip or die or ic or integrated near circuit or semiconductor near device) and ((heat or heating or thermal\$2) near (sink or slug or spreader or spreading or dissipation or dissipating or sinking or extract\$3 or removal or removing) or heatsink or heatsinking) and (mold or molding or overmolding or encapsulat\$4) and (bga or ball near grid or solder near ball or solder near bump or flip adj chip) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 10:51 |
| S45 | 614 | (strip or array or line) near (substrate or pcb or leadframe or lead adj frame or package) near8 (chip or die or ic or integrated near circuit or semiconductor near device) and ((heat or heating or thermal\$2) near (sink or slug or spreader or spreading or sinking) or heatsink or heatsinking) and (mold or molding or overmolding or encapsulat\$4) and (bga or ball near grid or solder near ball or solder near bump or flip adj chip) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 10:52 |
| S46 | 180 | (strip or line) near (substrate or pcb or leadframe or lead adj frame or package) near8 (chip or die or ic or integrated near circuit or semiconductor near device) and ((heat or heating or thermal\$2) near (sink or slug or spreader or spreading or sinking) or heatsink or heatsinking) and (mold or molding or overmolding or encapsulat\$4) and (bga or ball near grid or solder near ball or solder near bump or flip adj chip) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 10:53 |
| S47 | 185 | (strip or line) near (substrate or pcb or leadframe or lead adj frame or package) near8 (chip or die or ic or integrated near circuit or semiconductor near device) and ((heat or heating or thermal\$2) near (sink or slug or spreader or spreading or sinking) or heatsink or heatsinking) and (mold or molding or overmolding or encapsulat\$4) and (bga or ball near grid or solder near ball or solder near bump or flip adj chip) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 10:53 |

EAST Search History

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|-----|-----|--|---|----|----|------------------|
| S48 | 28 | (US-20050012203-\$ or US-20030203539-\$ or US-20030071348-\$ or US-20020187590-\$ or US-20040195701-\$ or US-20030092221-\$ or US-20050003585-\$ or US-20020149092-\$ or US-20030034569-\$ or US-20020006718-\$ or US-20020180035-\$ or US-20010019181-\$ or US-20050012189-\$ or US-20030176020-\$).did. or (US-6861750-\$ or US-6873039-\$ or US-5311060-\$ or US-5258648-\$ or US-6228683-\$ or US-6933176-\$ or US-6709895-\$ or US-6734552-\$ or US-6432749-\$ or US-6323066-\$ or US-6853070-\$ or US-6559537-\$ or US-6444498-\$ or US-6607942-\$).did. | US-PGPUB; USPAT | OR | ON | 2006/07/10 12:08 |
| S49 | 338 | (chip or die or integrated adj circuit or ic) and (substrate or leadframe or frame or package or packaging or housing) near2 (strip or tape) and (heatsink or (heat or thermal\$2) near2 (sink or spread\$3)) and (encapsulat\$4 or encapsulant or molding or mold) near6 (open or expos\$4 or uncover\$4) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 13:20 |
| S50 | 135 | (substrate or leadframe or frame or package or packaging or housing) near2 (strip or tape) and (heatsink or (heat or thermal\$2) near2 (sink or spread\$3)) near6 (chip or die or ic or integrated adj circuit) near20 ((thermal\$2 or heat\$2) near2 (interface or adhesive) or tim) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 13:39 |
| S51 | 501 | (substrate or package or packaging or circuit adj board or wiring near board or pcb or pwb or interposer) near3 (strip) and (chip or die or integrated adj circuit or ic) near5 ((heat or thermal\$3) near (sink or spreader or spreading or dissipat\$4 or conduct\$4) or heatsink) and (encapsul\$4 or molding) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 13:49 |

EAST Search History

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|-----|------|---|---|----|----|------------------|
| S52 | 173 | (substrate or package or packaging or circuit adj board or wiring near board or pcb or pwb or interposer) near3 (strip or panel) and (chip or die or integrated adj circuit or ic) near5 ((heat or thermal\$3) near (sink or spreader or spreading or dissipat\$4 or conduct\$4) or heatsink) same (encapsul\$4 or molding) and (ball near grid or solder near ball or solder near bump or bga) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 14:31 |
| S53 | 460 | 257/706.ccls. and (strip or array or line) near3 (substrate or package or pcb or pwb or circuit near board or wiring near board or leadframe or lead adj frame) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/12 16:19 |
| S54 | 0 | 257/706.ccls. and (open near encapsula\$5) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/10 15:20 |
| S55 | 85 | 257/706.ccls. and (underfill\$4 or under-fill\$4) and (tim or thermal near interface or conductive near adhesive or thermal near adhesive) and (heatsink or heatsinking or (heat or heating or thermal\$2) near (sink or sinking or slug or spread\$4)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 16:05 |
| S56 | 1011 | 257/707.ccls. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 15:31 |
| S57 | 338 | 257/707.ccls. and (strip or array or line) near3 (substrate or package or pcb or pwb or circuit near board or wiring near board or leadframe or lead adj frame) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:32 |
| S58 | 40 | 257/707.ccls. and (underfill\$4 or under-fill\$4) and (tim or thermal near interface or conductive near adhesive or thermal near adhesive) and (heatsink or heatsinking or (heat or heating or thermal\$2) near (sink or sinking or slug or spread\$4)) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 15:47 |
| S59 | 438 | 257/712.ccls. and (strip or array or line) near3 (substrate or package or pcb or pwb or circuit near board or wiring near board or leadframe or lead adj frame) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 17:08 |

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|-----|----|---|---|----|----|------------------|
| S60 | 14 | "6225695".pn. "6051888".pn. "20020163075" "20020109241" "5864178".pn. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/10 17:08 |
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EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|---|---|------------------|---------|------------------|
| L1 | 1 | strip near open near encapsulation | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 09:11 |
| L3 | 379 | ((heat or thermal\$2) near2 (spread\$4 or sink or sinking or slug) or heatsink or heatsinking) and (underfill\$3 or under adj fill\$3) and (singulat\$4 or dicing or diced or scribing or scribed or separating or separated or sawed or cleaving or cleaved) near4 (dice or package or chip) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 12:43 |
| L4 | 13 | ("4687879" "4882298" "5550408" "5667884" "5672548" "5710071" "5737191" "5835355" "5969426" "5998241" "6069023" "6160714" "6347037").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/12 11:22 |
| L5 | 0 | ("6720650").URPN. | USPAT | OR | ON | 2006/07/12 11:26 |
| L6 | 0 | ("6660565").URPN. | USPAT | OR | ON | 2006/07/12 11:27 |
| L7 | 12 | ("20020070445" "5385869" "5726079" "5817545" "5883430" "5896271" "5898224" "5909056" "5990418" "6117797" "6309908" "6468832").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/12 12:41 |
| L8 | 15 | open adj encapsulation | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/12 12:42 |
| L9 | 45 | ((heat or thermal\$2) near2 (spread\$4 or sink or sinking or slug) or heatsink or heatsinking) and (underfill\$3 or under adj fill\$3) and (tim or thermal near interface or thermal\$2 near adhesive) and (singulat\$4 or dicing or diced or scribing or scribed or separating or separated or sawed or cleaving or cleaved) near4 (dice or package or chip) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 13:50 |
| L10 | 2 | "6660565".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/07/12 13:50 |
| L11 | 12 | ("20020070445" "5385869" "5726079" "5817545" "5883430" "5896271" "5898224" "5909056" "5990418" "6117797" "6309908" "6468832").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/07/12 13:50 |

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|-----|----|--|--------------------|----|----|------------------|
| L12 | 21 | (US-20010023983-\$ or US-20040040740-\$ or US-20030171456-\$ or US-20020035201-\$ or US-20030170450-\$ or US-20030080437-\$ or US-20020131253-\$ or US-20020062970-\$ or US-20030075805-\$ or US-20040084688-\$ or US-20020008316-\$).did. or (US-6409070-\$ or US-5493259-\$ or US-6011683-\$ or US-6727119-\$ or US-6555414-\$ or US-6440777-\$ or US-6399178-\$ or US-6018192-\$ or US-5529957-\$ or US-6459561-\$).did. | US-PGPUB; USPAT | OR | ON | 2006/07/12 14:02 |
|-----|----|--|--------------------|----|----|------------------|